

## ABSTRACT OF THE DISCLOSURE

A system and process for creating custom fit artificial fingernails using a non-contact measuring device is disclosed. A fingernail is measured for its topographical configuration by an optical non-contact measuring device. The measured topography of the fingernail is then used to direct a machining device to create an artificial fingernail. Also disclosed is a method to digitally design an artificial fingernail, which has a portion of its under surface fitted to the natural fingernail by using a special computer program. The three-dimensional shape information of the digitally designed artificial fingernail is then converted into machine codes to drive a computer numerical controllable device, which will then cut the artificial fingernail from a piece of raw material. Finally, the user selected nail art can be printed onto the artificial fingernail by using a nail art printing device.